INTELECT®

LEGEND SERIES

User Manual

COMBO

Models 2C & 4C

CHATTANOOGA GROUP A DIVISION OF encore MEDICAL

ISO 13485 CERTIFIED

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Foreword

This manual has been written for the owners and operators of the Intelect® Legend Combo, models 2C and 4C. It contains general instructions on operation, precautionary practices, maintenance and parts information. In order to maximize use, efficiency and the life of your unit, please read this manual thoroughly and become familiar with the controls as well as the accessories before operating the unit.

Specifications put forth in this manual were in effect at the time of publication. However, owing to Chattanooga Group's policy of continual improvement, changes to these specifications may be made at any time without obligation on the part of Chattanooga Group.

Product Description

With the same legendary performance, quality and value that has made the Intelect® name respected world-wide, the Intelect® Legend Combo offers the convenience of a full-featured stimulator and ultrasound in one device. Easy to use 1-2-Go software makes this unit a pleasure to operate.

Features include Interferential, Premodulated, High Volt and Russian waveforms. Dual frequency ultrasound features a 5 cm^2 soundhead, which delivers 1 or 3.3 MHz frequencies, 10%, 20%, 50% and continuous duty cycle selections, and head warming. Unique Electronic Signature™ control allows all available ultrasound applicators to be interchangeable. Ultrasound operation is independent or in combination with Interferential, Premodulated and High Volt waveforms.

Models 2C and 4C of the Intelect Legend Combo are prescription devices used under the supervision or by the order of a physician or other licensed healthcare provider.

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Precautionary Instructions

1. **CAUTION:** Read, understand and practice the precautionary and operating instructions. Know the limitations and hazards associated with using any electrical stimulation or ultrasound device. Observe the precautionary and operational decals placed on the unit.
2. **CAUTION:** Do not operate the Intelect® Legend Combo when connected to any unit other than Chattanooga Group devices. Do not operate the unit in an environment of short-wave diathermy use.
3. **WARNING:** Federal law restricts this device to sale by, or on the order of, a physician or licensed practitioner. This device should be used only under the continued supervision of a physician or licensed practitioner.
4. **CAUTION:** This unit generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. Harmful interference to other devices can be determined by turning this unit on and off or trying to correct the interference using one or more of the following: Reorient or relocate the receiving device, increase the separation between the equipment, connect the unit to an outlet on a different circuit from that to which the other device(s) are connected and/or consult the factory field service technician for help.
5. **CAUTION:** The Ultrasound generator should be routinely checked before each use to determine that all controls function normally; especially that the intensity control does properly adjust the intensity of the ultrasonic power output in a stable manner. Also, determine that the treatment time control does actually terminate ultrasonic power output when the timer reaches zero.
6. **CAUTION:** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure to ultrasonic energy.
7. **CAUTION:** This unit is not designed to prevent the ingress of water or liquids. Ingress of water or liquids could cause malfunction of internal components of the system and therefore create a risk of injury to the patient.
8. **CAUTION:** DO NOT use sharp objects such as a pencil point or ballpoint pen to operate the buttons on the control panel as damage may result.
9. **WARNING:** Equipment not suitable for use in the presence of flammable anesthetics mixture with air, oxygen, or nitrous oxide. The warning symbol for this hazard is prominently displayed on the cabinet.

10. **WARNING:** Keep electrodes separated during treatment. Electrodes in contact with each other could result in improper stimulation or skin burns.
11. **WARNING:** For continued protection against fire hazard, replace fuses only with ones of the same type and rating.
12. **WARNING:** Make certain that the unit is electrically grounded by connecting only to a grounded electrical service receptacle conforming to the applicable national and local electrical codes.
13. **WARNING:** This device should be kept out of the reach of children.
14. **WARNING:** Care must be taken when operating this equipment around other equipment. Potential electromagnetic or other interference could occur to this or to the other equipment. Try to minimize this interference by not using other equipment in conjunction with it.
15. **CAUTION:** This unit should be operated, transported and stored in temperatures between 59° F and 104° F (15° C and 40° C), with Relative Humidity ranging from 30%-60%.
16. **CAUTION:** Handle ultrasound applicator with care. Inappropriate handling of the ultrasound applicator may adversely affect its characteristics.
17. **CAUTION:** Inspect treatment head for cracks, which may allow the ingress of conductive fluid before each use.
18. **CAUTION:** Inspect treatment head cables and associated connectors before each use.
19. **WARNING:** Use caution when operating in "Interferential" (IFC) mode. It is recommended to always use new electrode pads when IFC modality is administered. Unseen residues on repeatedly used electrodes could possibly create an electrical shock or burn sensation to the patient.
20. **CAUTION:** DO NOT raise intensity after treatment has been started.
21. **DANGER:** Patients with an implanted neurostimulation device must not be treated with or be in close proximity to any shortwave diathermy, microwave diathermy, therapeutic ultrasound diathermy or laser diathermy anywhere on their body. Energy from diathermy (shortwave, microwave, ultrasound and laser) can be transferred through the implanted neurostimulation system, can cause tissue damage and can result in severe injury or death. Injury, damage or death can occur during diathermy therapy even if the implanted neurostimulation system is turned "off."

Before administering any treatment to a patient you should become acquainted with the operating procedures for each mode of treatment available, as well as the indications, contraindications, warnings and precautions. Consult other resources for additional information regarding the application of electrotherapy.

Installation

Initial Setup Instructions

Remove the Intelect® Legend Combo unit and any additional items ordered from the carton and inspect for damage that may have occurred during shipment. Check the voltage rating on the serial decal located on the bottom of the unit. Plug the system power supply in to a 100 Volt to 220-240 Volt AC outlet, as required.

CAUTION

- DO NOT attempt to use Direct Current (DC).
- DO NOT place unit in a location where the power cord could be tripped over or pulled out during treatment.
- DO NOT attempt to use the unit if it is not properly grounded.

Package Contents

Standard Accessories

The following accessories are included with your Intelect® Legend Combo:

78047	Applicator, Ultrasound 5 cm^2
4248	Conductor™ Gel
12213	Lead, 120", Red/Black Channels 1 and 2
12214	Lead, 120", Channels 3 and 4 (Model 4C only)
72853	Electrodes, Carbonflex, 3" Round, Red
72852	Electrodes, Carbonflex, 3" Round, Black
10648	Nylatex, 2-½" x 24", Sewn
79079	Operator's Manual

Optional Accessories

The following is a list of optional accessories available for the Intelect® Legend Combo:

78046 Applicator, Ultrasound 10 cm^2
78048 Applicator, Ultrasound 2 cm^2
79977 High Volt Probe Kit
10832 Strap, Nylatex, Long 2-½"x 48"
10648 Strap, Nylatex, Medium, 2-½"x 24"
10828 Strap, Nylatex, Short, 2-½"x 18"
78022 Patient Control Center

Indications/Contraindications Adverse Effects for Electrical Stimulation

Interferential and Premodulated

Indications

- Symptomatic relief of chronic, intractable pain.
- Management of pain associated with post-traumatic or postoperative conditions.

Contraindications

- This device should not be used for symptomatic pain relief unless etiology is established or unless a pain syndrome has been diagnosed. This device should not be used on patients with demand type cardiac pacemakers. This device should not be used over cancerous lesions.
- Electrode placements must be avoided that apply current to the carotid sinus region (anterior neck) or transcereberally (through the head).

Warnings

- The long term effects of chronic electrical stimulation are unknown. Safety has not been established for the use of therapeutic electrical stimulation during pregnancy.
- Adequate precautions should be taken when treating individuals with suspected or diagnosed heart problems, or epilepsy.
- Benefits of Interferential stimulation have not been established for pain of central origin.
- This device is to be used as a symptomatic treatment for pain and has no curative value. Patients should be cautioned and their activities regulated if pain is suppressed that would otherwise serve as a protective mechanism.
- Electronic monitoring equipment (such as ECG monitors and ECG alarms) may not operate properly when electrical stimulation is being utilized.

Precautions

- Isolated cases of skin rash may occur at the site of electrode placement following long term applications. The irritation may be reduced by use of an alternate conductive medium or an alternative electrode placement.
- Effectiveness of this treatment is dependent upon patient selection.

Adverse Effects

- Skin irritation and burns beneath the electrodes have been reported with the use of therapeutic electrical stimulation.

Russian and High Volt

Indications

- Relaxation of muscle spasms.
- Prevention or retardation of disuse atrophy.
- Increasing local blood circulation.
- Muscle re-education.

- Maintaining or increasing range of motion.
- Immediate postsurgical stimulation of calf muscles to prevent venous thrombosis.

Contraindications

- This device should not be used on patients with demand type cardiac pacemakers.
- This device should not be used on cancer patients.

Warnings

- The long term effects of chronic electrical stimulation are unknown.
- Safety has not been established for the use of therapeutic electrical stimulation during pregnancy.
- Adequate precautions should be taken when treating individuals with suspected or diagnosed heart problems.
- Adequate precautions should be taken in the cases of persons with suspected or diagnosed epilepsy.
- Do not stimulate over the carotid sinus nerve, especially in persons with a known sensitivity to the carotid sinus reflex.
- Severe spasm of the laryngeal and pharyngeal muscles may occur if the electrodes are placed over the neck or mouth. The contractions may be strong enough to cause breathing difficulty or even close the airway.
- Do not perform therapeutic electrical stimulation transcerebrally (through the head).
- Therapeutic electrical stimulation should not be applied over swollen, infected or inflamed areas of skin eruptions, (e.g., phlebitis, thrombophlebitis and varicose veins).
- Use extreme caution in transthoracic application of therapeutic electrical stimulation, introduction of electrical current into the heart may cause arrhythmia.
- This device should only be used under medical supervision for adjunctive therapy for the treatment of medical diseases and conditions.
- This device should be kept out of the reach of children.

Precautions should be observed in the presence of the following:

- Following recent surgical procedures especially when muscle contractions could disrupt the healing process.
- Where sensory nerve damage is present by a loss of normal skin sensation.
- When there is a tendency to hemorrhage following acute trauma or fracture.
- Over the menstruating uterus.
- Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or the electrical conductive medium. The irritations can usually be reduced by the use of an alternate conductive medium or alternative electrode placement.

Adverse Effects

- Skin irritation and burns beneath the electrodes have been reported with the use of therapeutic electrical stimulation.

HAND HELD PROBE (Optional)

HIGH VOLT Probe

The High Volt probe is used to deliver stimulation manually. Select the High Volt waveform then simply plug the Black lead wire into the connector of the Probe. The Red lead wire from the same channel should be attached to an electrode and placed near the treatment site. The default polarity for High Volt is positive. When using this setting, the Red lead is positive and the Black lead is negative.

- Select the parameters you wish to change then press the start button to begin treatment.

Note: Place the ground electrode as close to the treatment site as possible where it will not interfere with placement of the active electrode; for example, do not place the ground electrode on the leg if you are treating the arm.

User Maintenance

To clean, turn unit off and unplug the power supply. Clean the unit with a damp cloth. Do not use abrasive cleaners. A small amount of mild household detergent may be used, if desired.

Between patient uses, patient applied parts should be wiped clean with a clean damp cloth, then use another clean cloth to clean with a hospital grade germicide. Follow germicide manufacturer directions. Some highly concentrated germicide mixtures could damage the product if not diluted in accordance with directions of the germicide manufacturer.

Technical Maintenance

No attempt should be made to disassemble the unit. Maintenance and all repairs should be made by authorized personnel only. The manufacturer will not be held responsible for the results of maintenance or repairs by unauthorized persons.

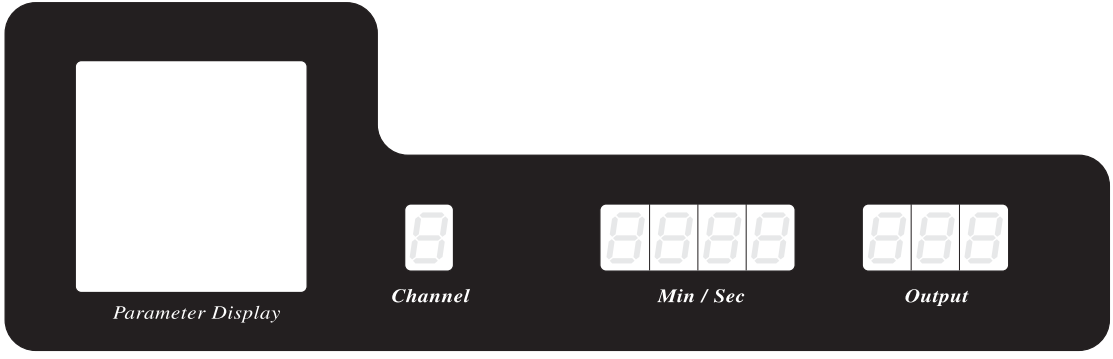
To fully maintain compliance with Federal Regulation Title 21 (21 CFR), this unit must be recalibrated annually. It is recommended that all Chattanooga Group ultrasound products be returned to the factory or an authorized servicing dealer for repairs or recalibration. It is also recommended after the replacement or repair of any major component.

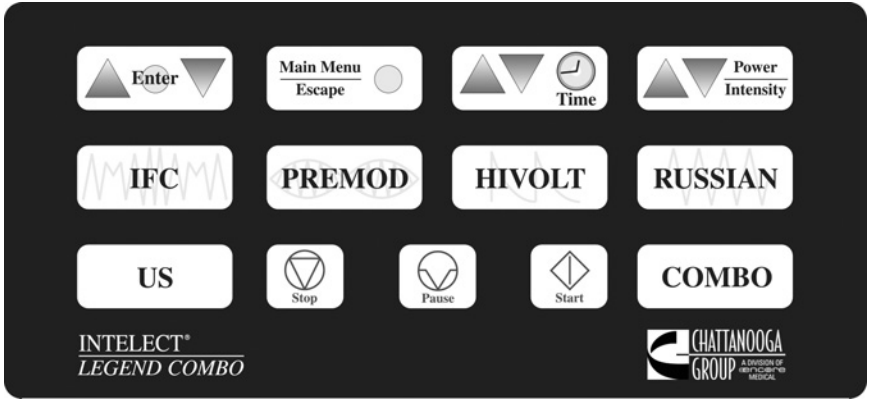
The following items should be checked at least monthly to ensure proper operation of this unit:

1. *Power cord and plug:* Check to make sure the cord is not frayed, kinked or does not have torn or cut insulation.
2. *Sound head cable:* Check to make sure the cable is flexible, free of kinks, not frayed and the insulation is intact.
3. *Sound head face:* Check to see that there is no build-up of gel or foreign material on the aluminum face.
4. *Lead Wires:* Check that the cables are not frayed, kinked or do not have torn or cut insulation.

Unit Orientation

Operator Interface – The operator interface consists of a Liquid Crystal Display (LCD) and three Light Emitting Diodes (LEDs). The operator is able to view Channel designation, Treatment time and Output on the LEDs and Parameter options on the LCD.



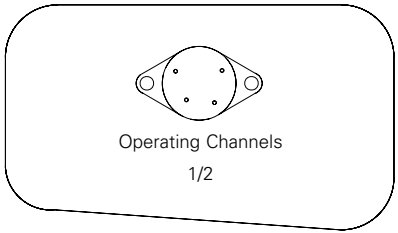


The software control of the Legend Combo has been designed to be extremely user friendly. First press the treatment mode button of your choice, increase intensity and press start. The software also allows great flexibility should you desire to change parameters.

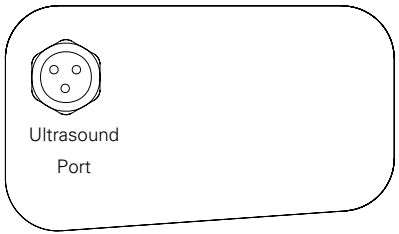
Changing Parameters – To change parameters, use the **UP/DOWN** arrows to select the parameter, then press **ENTER**. If there are two options, pressing **ENTER** will toggle between those choices. If there are three or more options, pressing **ENTER** will display a pop-up window with the choices listed. Use the UP/DOWN arrows to choose an option and then press **ENTER** to accept.

Enter – The **UP/DOWN** arrows control the Select Highlight box and the **ENTER** button confirms the change.

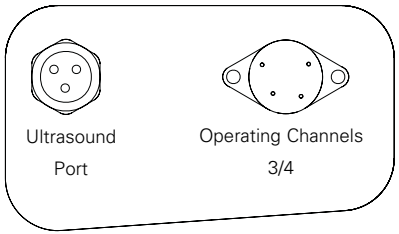
Main Menu – This button will return you to Main Menu or allow you to escape from a pop-up menu.



Left Side Panel of Models 2C and 4C



Right Side Panel of Model 2C



Right Side Panel of Model 4C

Time – The **UP/DOWN** arrows increase or decrease the default treatment time.

Power/Intensity – The **UP/DOWN** arrows increase or decrease the intensity/power.

Treatment Selection– There are four waveform selections, plus Ultrasound and Combo.

Start – This button will start the treatment on the selected channel.

Stop – This button will stop the treatment on the selected channel.

Pause – This button will pause the treatment on the selected channel.

Operating Channels – Model 2C of the Intelect® Legend Combo provides two channels of electrical stimulation and one channel of ultrasound. Model 4C provides four channels of electrical stimulation and one channel of ultrasound.

Stimulation Output Channels – The lead wires connect to these ports.

Ultrasound Port – The Intelect Legend Combo includes a 5 cm^2 ultrasound applicator, which connects to the port marked Ultrasound. The advanced electronics of the Legend Combo transmits stored data from the applicator to the unit each time the device is powered on and ultrasound is accessed. This sophisticated Electronic Signature™ assures accurate calibration with any of the interchangeable applicators.

Pain Management

The management of post-traumatic, post-operative or chronic intractable pain associated with many areas of the body can be a difficult task. The Intelect® Legend Combo provides multiple waveforms and many parameter settings to manage pain.

Two waveforms are available for Pain Management therapy: Interferential and Premodulated.

Interferential

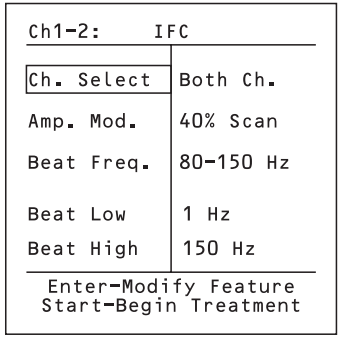
The Interferential waveform consists of two channels, each with a sinusoidal waveform; one of fixed frequency and one of variable frequency.

When the four electrodes are positioned so that the two channels cross each other, the two waveforms mix within the tissue to produce a train of pulses whose frequencies and amplitude are dependent on the sweep mode, beat frequency and amplitude settings, respectively. Press the Interferential button to select this waveform.

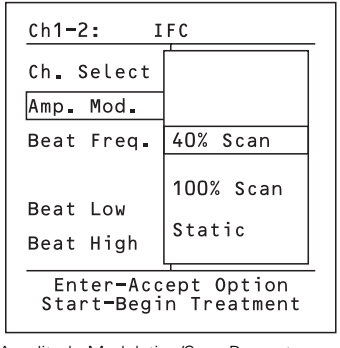
Ch. Select controls the method for setting amplitude. The Both Channels mode changes intensity equally. The Channel 1 option changes ONLY channel one and the Channel 2 option ONLY changes channel two. This is helpful when you need to balance the output between channels.

When you highlight **Amplitude Modulation** and press the **ENTER** button, 3 options are displayed. They are 40% Scan (default), 100% Scan and Static (no scan).

Scan Percentage is the percentage of decrease from the maximum amplitude. Scan is amplitude modulation, expressed as a percentage of the amplitude. The rhythmical varying of the amplitude of each channel produces the perceived movement of the Interferential field.



Ch. Select



Amplitude Modulation/Scan Percentage

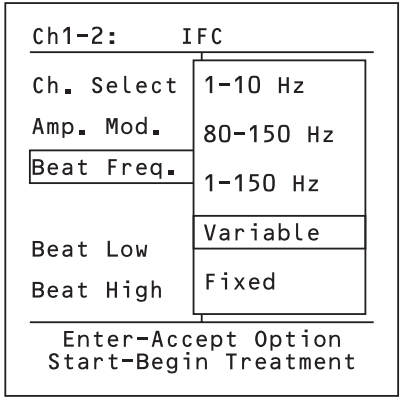
When you highlight **Beat Frequency** and press the **ENTER** button, 5 options are displayed. They are 1-10 Hz, 80-150 Hz (default), 1-150 Hz, Variable and Fixed.

The **Variable** option allows you to select a Low Beat frequency from 1-200 Hz and a High Beat frequency from 1-200 Hz. To make changes in the Variable frequency, highlight **VARIABLE** and press the **ENTER** button. To change the Beat Low frequency, use the **DOWN** arrow to highlight Beat Low and press **ENTER.** Use the **UP/DOWN** arrows to adjust the frequency. Press **ENTER** to accept.

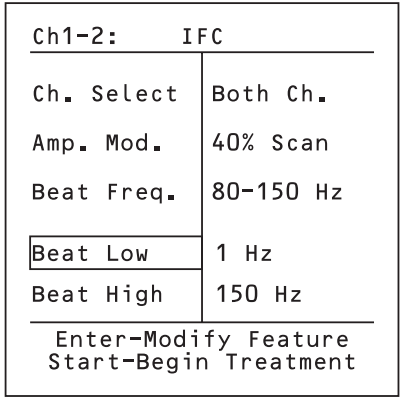
Beat Low describes the lowest frequency in the range of a sweep mode. For example when using a sweep of 80-150 Hz, 80 Hz is the lowest frequency.

Beat High describes the highest frequency in the range of a sweep mode. For example when using a sweep of 80-150 Hz, 150 Hz is the highest frequency.

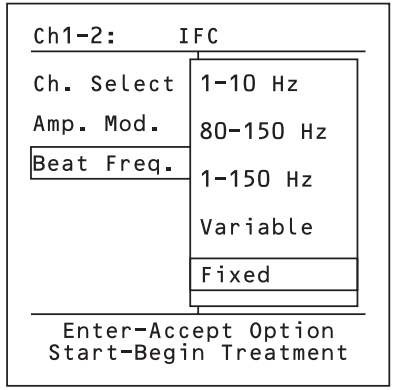
The **Fixed Option**, allows you to select a fixed frequency from 1-200 Hz. To make changes to the Fixed frequency, highlight **FIXED** and press **ENTER**. Use the **UP/DOWN** arrows to adjust frequency. Press **ENTER** to accept.



Beat Frequency



Beat Low



Fixed Option

Premodulated

Premodulated is an amplitude modulated sine wave. This waveform is similar to the beat frequency created by Interferential current. In some cases, Premodulated therapy provides a good alternative for Interferential treatment especially when treating areas of the body where four electrodes can not be utilized.

Cycle Time parameter controls the on/off cycle time of the current. There are 2 available options, Continuous (default) and 5/5.

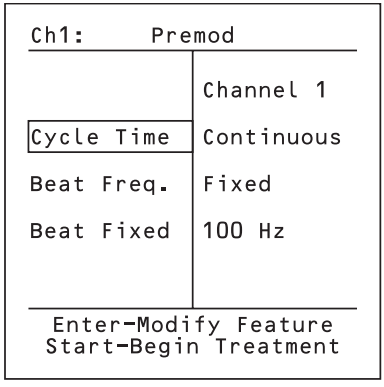
When you highlight **Beat Frequency** and press the **ENTER** button, 5 options are displayed. They are 1-10 Hz, 80-150 Hz (default), 1-150 Hz, Variable and Fixed.

The **Variable** option allows you to select a Low Beat frequency from 1-200 Hz and a High Beat frequency from 1-200 Hz. To make changes in the Variable frequency, highlight **VARIABLE** and press the **ENTER** button. To change the Beat Low frequency, use the **DOWN** arrow to highlight Beat Low and press **ENTER.** Use the **UP/DOWN** arrows to adjust the frequency. Press **ENTER** to accept.

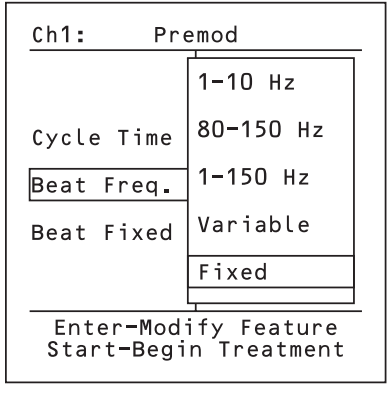
Beat Low describes the lowest frequency in the range of a sweep mode. For example when using a sweep of 80-150 Hz, 80 Hz is the lowest frequency.

Beat High describes the highest frequency in the range of a sweep mode. For example when using a sweep of 80-150 Hz, 150 Hz is the highest frequency.

The **Fixed Option**, allows you to select a fixed frequency from 1-200 Hz. To make changes to the Fixed frequency, highlight **FIXED** and press **ENTER**. Use the **UP/DOWN** arrows to adjust frequency. Press **ENTER** to accept.



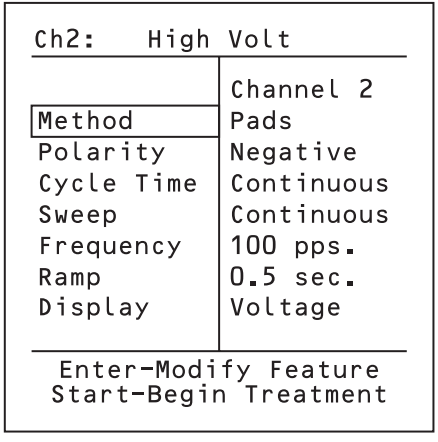
Cycle Time



Fixed Option

Muscle Contraction

Two waveforms are available for muscle contraction therapy; Twin-Peak High Volt and Russian. The appropriate selection of a waveform for relaxing muscle spasms, increasing local circulation, re-educating muscles that have atrophied from disuse or injury, or to maintain or improve joint range of motion can be difficult. The Intelect® Legend Combo provides multiple waveforms to address these clinical problems.



Method

High Volt

High Volt stimulation has output ranges between 300 and 500 volts. True Twin-Peak High Volt is designed to deliver very short-duration pulses, which are very low in pulse charge. High Volt is available through channel 2 and 4 on the model 4C and channel 2 on the model 2C.

Method gives you the option of delivering High Volt to the patient either by Pads (default) or Probe application.

Polarity of the active electrode can be changed from Positive (default) to Negative by selecting **POLARITY** and pressing the **ENTER** button. When Positive (default) polarity is selected, the Red leadwire is positive polarity and the Black leadwire is negative polarity. IF YOU SELECT NEGATIVE POLARITY, the Red leadwire becomes negative polarity and the Black leadwire becomes positive polarity.

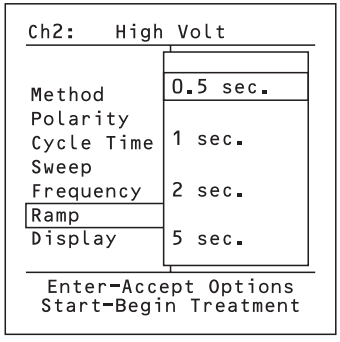
Cycle Time parameter controls the on/off cycle time of the current. There are 7 available options: 5/5, 10/10, 10/20, 4/12, 10/30, 10/50 and Continuous (default).

Sweep is frequency modulation of the High Volt current. When you select **SWEEP** and press the **ENTER** button, 4 options are displayed. They are Continuous (default at 100 pps), 1-10 Hz, 80-150 Hz and 1-150 Hz. The Continuous option allows you to select a continuous fixed frequency from 1-120 pps.

Frequency is the number of pulses per second of the waveform. To change the Frequency select **FREQUENCY** and press **ENTER**, then use the **UP** or **DOWN** arrows to change the frequency, from 1-120 pps.

Ramp controls the amount of time required to bring the stimulation up to the selected amplitude. When you select **RAMP** and press **ENTER**, 4 options are displayed. They are 0.5 seconds, 1 second, 2 seconds (default) and 5 seconds.

Display provides two options of viewing output. The options are Voltage (default) and Peak Current. The ability to assess peak current can help determine tissue response, and an indication of impedance to current at the electrode skin interface.



Ramp

Russian

The Russian current is a 2,500 Hz sinusoidal carrier wave, interrupted to create pulse trains or "bursts." The number of bursts per second is determined by the burst frequency and the length of the bursts is determined by the duty cycle.

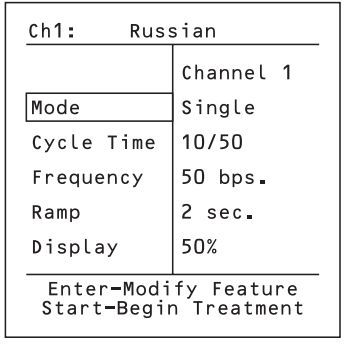
Mode provides three methods of treatment including Single channel application, Reciprocal application where stimulation alternates between agonists and antagonists and Co-Contract where the timing of stimulation can be coordinated through two channels to simultaneously co-contract agonist and antagonist or differing sections of a larger muscle group.

Cycle Time parameter controls the on/off cycle time of the current. There are 7 available options: 5/5, 10/10, 10/20, 4/12, 10/30, 10/50 (default) and Continuous.

The **Burst Frequency** is the number of bursts per second (bps) and the available range is 20 bps to 100 bps.

Ramp controls the amount of time required to bring the stimulation up to the selected amplitude. When you press the Ramp button it will toggle between .5 seconds, 1 second, 2 seconds (default) and 5 seconds.

Duty Cycle is the ratio of on time to total time of the burst and is expressed as a percentage. The options are 10%, 20%, 30%, 40% and 50% (default).



Mode

Ultrasound Indications and Contraindications

Indications

Ultrasound for use in applying deep heat can be used for treatment of selected medical conditions such as the relief of pain, muscle spasms and joint contractures. These conditions may be associated with adhesive capsulitis, bursitis with slight calcification, myositis and soft tissue injuries. The Intelect® Legend Combo can provide therapeutic deep heating between 40 and 45° C in all of its operating modes, while using any of the applicators available for this device.

Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- This device should not be used when cancerous lesions are present in the treatment area.
- This device should not be used when open wounds are present in the treatment area.
- Other contraindications are patients suspected of carrying serious infectious disease and or disease where it is advisable, for general medical purposes, to suppress heat or fevers.
- This device should not be used over or near bone growth centers until bone growth is complete.
- This device should not be used over the thoracic area if the patient is using a cardiac pacemaker.
- This device should not be used over a healing fracture.
- This device should not be used over or applied to the eye.
- This device should not be used over a pregnant uterus.
- This device should not be used on ischemic tissues in individuals with vascular disease where the blood supply would be unable to follow the increase in metabolic demand and tissue necrosis might result.
- Patients with an implanted neurostimulation device must not be treated with or be in close proximity to any shortwave diathermy, microwave diathermy, therapeutic ultrasound diathermy or laser diathermy anywhere on their body. Energy from diathermy (shortwave, microwave, ultrasound and laser) can be transferred through the implanted neurostimulation system, can cause tissue damage and can result in severe injury or death. Injury, damage or death can occur during diathermy therapy even if the implanted neurostimulation system is turned "off."

Ultrasound

Ultrasound is a form of mechanical energy that consists of high frequency vibrations delivered to the body by means of an ultrasound beam emitted out of an applicator. These high frequency vibrations pass through the tissues of the body and are gradually absorbed and transformed into heat.

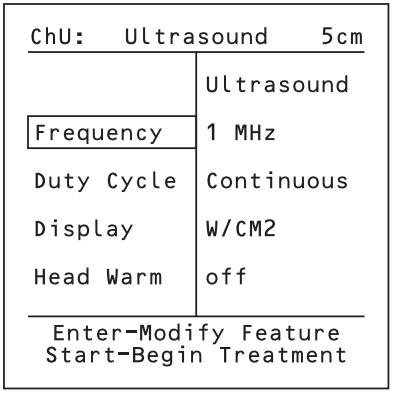
This temperature increase triggers biological changes to occur in tissues for the relief of pain, relaxation of muscle spasms and reduction of joint contractures. The ultrasound frequency, duty cycle and level of intensity can all be adjusted to produce the desired therapeutic effect.

Head Warming is a unique feature of the Intelect® Legend Combo that allows the aluminum surface of the Ultrasound applicator to warm up to room temperature, enhancing patient comfort. Select **HEAD WARM** and press **ENTER** to change this option.

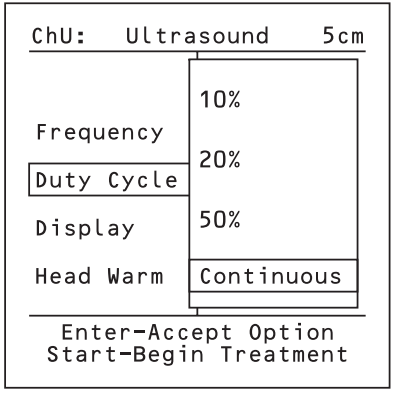
Frequency of ultrasound determines the depth of penetration. One megahertz penetrates approximately 2 inches, and 3 megahertz penetrates to .6 inches. Both 1 and 3.3 MHz frequencies are available and can be changed throughout the course of treatment by selecting **FREQUENCY** and pressing **ENTER**.

Duty Cycle is the ratio of on time to total time of the ultrasound and is expressed as a percentage. The options are 10%, 20%, 50% and 100% (Continuous-default). Select **DUTY CYCLE**, press **ENTER**, select option and press **ENTER**.

Display shows ultrasound output in Watts, or Watts Per Square Centimeter. Select **DISPLAY** and press **ENTER** to change option.



Frequency



Duty Cycle

Combination Therapy

In the Combination mode, ultrasound therapy is combined with Interferential, Premodulated or High Volt (default) to generate a therapeutic effect. In this mode of therapy the aluminum face of the ultrasound applicator becomes one half of the electrical circuit. An electrode attached to the Red lead wire marked "2" completes the circuit.

The benefits of ultrasound as expressed in the ultrasound section are coupled with electrical stimulation; a typical application of combination therapy is for the reduction of muscle spasm. Combination mode is limited to channel 2.

Step-By-Step Instructions

- Select Combo
- Set ultrasound intensity
- Press Enter
- Set Stimulation intensity
- Press Start to begin treatment

Changing from US to Stim

The software defaults to the ultrasound parameter screen when you select Combo. To switch to the waveform parameter screen, press the **ENTER** button when Channel Select is highlighted

Mode

Mode displays three waveform options. They are Interferential, Premod and High Volt (default).

Miscellaneous

To Change Presets

- Select and modify desired parameter(s).
- Press and hold the **PAUSE** button, then press the **ENTER** button.

To Change LCD Screen Contrast:

- Press and hold the **MAIN MENU** button.
- Modify contrast by using the **POWER/INTENSITY** buttons.

Technical Specifications

Stimulator Output Parameters

Parameter	Interferential	Premodulated
Function	Electrodes	Electrodes
Carrier Frequency	5000 Hz	5000 Hz
Beat Frequency	0-200 Hz	0-200 Hz
Scan Mode	On/Off	N/A
Scan Time	15 sec	N/A
Sweep Time	15 sec	15 sec
Duty Cycle	N/A	N/A
Ramp Up / Ramp Down	N/A	N/A
Cycle Time	15 sec	N/A
Alternating Time in Seconds	N/A	N/A
Polarity	N/A	N/A
Amplitude	0-50 mA RMS	0-50 mA RMS
Voltage (max)	200 Volts	200 Volts
Treatment Time	1 to 60 min	1 to 60 min

N/A = Not Applicable

Stimulator Output Parameters

Parameter	Russian	High Volt
Function Mode	Electrodes Single, Recipr. Co-Contraction	Electrodes, Probes Single
Carrier Frequency	2500 Hz	N/A
Pulse Frequency	N/A	10-120 pps
Burst Frequency	20-100 BPS	N/A
Phase Duration	N/A	N/A
Interphase Interval	N/A	N/A
Duty Cycle	10-50%	N/A
Ramp Up / Ramp Down	.5, 1, 2, 5 sec	N/A
Cycle Time	5/5,10/10, 10/20 4/12, 10/30, 0/50 Continuous	5/5,10/10, 10/20 4/12, 10/30, 0/50 Continuous
Polarity	N/A	Pos. (+), Neg. (-)
Amplitude	0-100 mA RMS into 500 ohm load	0-500 mA RMS
Voltage (max)	200 Volts	0-500 Volts
Output Current	N/A	0-2500 mA Peak
Treatment Time	0-60 min	0-60 min

N/A = Not Applicable

Ultrasound

Channel	US (ultrasound)
Frequency	1 MHz ± 5% & 3.3 MHz ± 5%
Duty Cycle	100% (continuous mode) 50%, 20%, 10% (pulsed mode)
Pulse Duration	5 msec ± 20% (50% duty cycle, pulsed mode) 2 msec ± 20% (20% duty cycle, pulsed mode)
Ultrasonic Power	Variable from 1-20 watts, 10 cm^2 crystal Variable from 0.4-10 watts, 5 cm^2 crystal Variable from 0.2-4 watts, 2 cm^2 crystal
Output Meter Accuracy	± 20% for any output above 10% of maximum
Temporal Peak/Average Intensity Ratio	2:1 ± 20% for 50% duty cycle 5:1 ± 20% for 20% duty cycle 9:1 ± 20% for 10% duty cycle
Output	Continuous: 1 MHz or 3.3 MHz nominal signal that is activated as long as the timer is operating. Pulsed: 1 MHz or 3 MHz signal, modulated 100% by the 100 Hz rectangular wave with the selected duty cycle.
Timer Accuracy	±0.2 minute
Sound Head	Effective Radiating Area: 8.5 cm^2 ± 1.5 cm^2 for the 10 cm^2 crystal 4.0 cm^2 ± 1.0 cm^2 for the 5 cm^2 crystal 1.8 cm^2 -0.4/+0.2 cm^2 for the 2 cm^2 crystal
Maximum Beam Non-uniformity Ratio	5.0:1
Beam Type	Collimating

Warranty

Chattanooga Group ("Company") warrants that the Intelect® Legend Combo ("Product") is free of defects in material and workmanship. This warranty shall remain in effect for two (2) years from the date of original consumer purchase of this Product and extends to any owner of the Product during the warranty period. Accessories that are included as standard with the product (as listed in the users manual) are warranted for 90 days. Ultrasound applicators (2 cm^2, 5 cm^2 or 10 cm^2) as included with the Combo (Combination) units are warranted for one (1) year. If this Product fails to function during the warranty period because of defect in material or workmanship, Company or the selling dealer will replace or repair this Product without charge within a period of 30 days from the date on which the defective Product is returned to the Company or the dealer. Company or the dealer will ship the replacement or the repaired Product to the consumer's facility.

All repairs must be performed by a service center authorized by Chattanooga Group. Any modifications or repairs performed by unauthorized centers or groups will void this warranty. To participate in warranty coverage, this Product's warranty registration card (included with Product) must be filled out and returned to Chattanooga Group by the original owner within ten business days of purchase.

This Warranty Does Not Cover

1. Replacement parts or labor furnished by anyone other than the Company, the dealer or an approved Company service agent.
2. Defects or damage caused by labor furnished by someone other than Company, the dealer or an approved Company service agent.
3. Any malfunction or failure in the Product while it is in the possession of the owner during the warranty period if the malfunction or failure is not caused by a defect in material or workmanship, or if the malfunction or failure is caused by unreasonable use, including the failure to provide reasonable and necessary maintenance.

Company Shall Not Be Liable for Incidental or Consequential Damages to Property or Business

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

TO OBTAIN SERVICE from Company or the selling dealer under this warranty, the owner must do or abide by the following:

1. A written claim must be made within the warranty period to the Company or the selling dealer. If the claim is made to the Company, written claim should be sent to:

   4717 Adams Road • P.O. Box 489 • Hixson, TN 37343
   Phone: (800) 592-7329, *Outside US:* (423) 870-2281, *Fax:* (423) 875-5497

2. The Product must be returned to the Company or the selling dealer by the owner.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The Company does not authorize any person or representative to create for it any other obligation or liability in connection with the sale of the Product. Any representation or agreement not contained in the warranty shall be void and of no effect.

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DURA-STICK™ Electrodes
Self-Adhesive Electrodes
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Dual Channel Surface EMG
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Hydrocollator®
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Intelect® Legend
Ultrasound and Electrotherapy Products
Measurement Instruments
Dynamometers, Goniometers, etc.
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Massage Lotion
Nylatex®
Elastic Wraps
OptiFlex™ & OptiFlex® S
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Opti-Ice™
Cold Therapy System
Para-Care™
Paraffin Wax Unit
Pillow Perfect™
Cervical Pillow Line
Pivotal Therapy System™
Orthotics for the Spine
ProPower Pillow™
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Intermittent Compression
Pron Pillo®
Positioning Pillow
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SPORT-PAC™
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